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SHORTER ARTICLES AND DISCUSSION

A LIGHT-WEIGHT, PORTABLE OUTFIT FOR THE STUDY AND TRANSPORTATION OF ANTS

1. *Nests.*—For some time I have been observing ants in artificial nests. I have used Fielde (1900–1904) nests ten inches long and six inches wide, a size which needs cleaning less often than the sizes used by Miss Fielde, and gives the ants, especially species of large stature, more freedom. Though these nests are in most respects satisfactory they have proved, when of this size, to be too heavy to be easily carried about on a journey. In order, therefore, to diminish the weight, nests of the same general plan as Fielde nests were made of aluminum instead of glass. Necessarily, however, the construction was quite different from the prototype. From a flat sheet of light-weight aluminum (0.28 mm. thick) was cut a piece of the form shown in Fig. 1. Aluminum of this thickness can easily be cut with an ordinary pair of sheers. The lines *c, d, g, h,* and *e, f, i, j,* were ruled on the aluminum with a lead pencil; at each of these lines the metal was bent at right angles by a tinsmith. Thus *k, l, m, n,* became the vertical sides of a shallow tray one half inch deep, while *o, p, q, r* became a practically continuous overhang projecting horizontally inward one half inch as a marginal part of the tray. The parts of *o, p, q* and *r,* which overlapped each other at the corners of the tray, were firmly fastened together by McGills' fasteners.[1] The tray, or nest was divided into two approximately equal chambers, *A* and *B,* by a partition five inches long. This was made of a strip of aluminum an inch and a half wide, bent, as shown in Fig. 1 (enclosed in chamber *A*). The base (*t*) was attached to the floor of the tray by means of three McGills' fasteners, one at each end and one in the middle (*s,* Fig. 1), so that *u* served as an upright between chambers *A* and *B,* while *v*

[1] A much better joint would be produced by a method of soldering aluminum; but when the first trays were made I was not aware that such a method was known. More recently it was learned through Professor A. G. Webster, of Clark University, Worcester, Mass., that a technician in his department had invented a method of soldering aluminum, and Professor Webster has kindly had soldered for me some of my trays.

formed an overhang over one of the chambers, and, together with *o, p, q* and *r,* served to support the glass roof-panes, one covering chamber *A*, the other chamber *B*. *v* was made half an inch longer at each end than *t* and *u*, the projecting ends resting on *o* and *p* to which they were fastened, thus giving the tray additional rigidity. As in the Fielde nests, the necessary ventilation and tightness of roof were secured by using strips of Turkish toweling, which were glued to the upper surfaces of *o, p, q, r* and *v*. All cracks in the corners and around the partition were stopped with putty. In one chamber a wet sponge was kept, and in the other food. Either chamber, or both, could be darkened by pasteboard covers placed on top of the roof-panes.

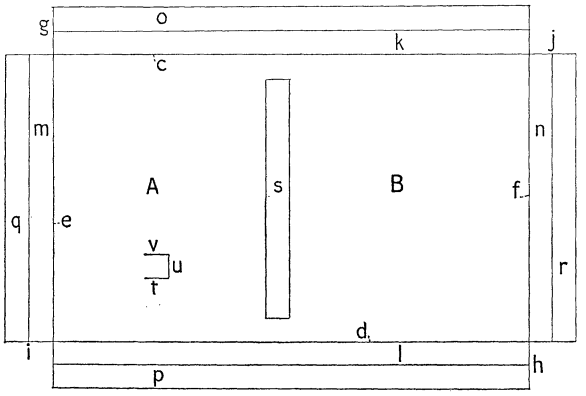

FIG. 1.

2. *Traveling Case.*—In order still further to diminish the weight of the outfit, and render it more convenient in traveling, certain modifications were made in the Fielde (1904, p. 28) traveling case. For part of the plan and all the construction I am indebted to my mother. The case (Fig. 3) was made as follows: The floor, roof and ends were made of wood three eighths inch thick, each composed of a pair of strips two inches wide, placed parallel to each other and two inches apart. Four strips of heavy tin, about six inches broad and as long as the width of the floor (about six inches) were bent at right angles, like "angle irons," to form the corners of the case where the ends met floor and roof. The strips were nailed securely to the tins, leaving the desired space of two inches between the strips of each pair. The case was twenty-one and a half inches long, six

and a half inches high and six inches from front to back, inside measurements, and it was divided into two chambers of equal size by a vertical partition. The back and front were made of book-binder's board, the back having a few large circular holes to allow for ventilation, and the front serving as a door. The entire case was covered with woolen cloth, which was carried over and nailed to the front edges of the case at top and sides, thus forming a cloth-covered jam for the door to shut against. The cloth covering at the bottom of the door served as a hinge.

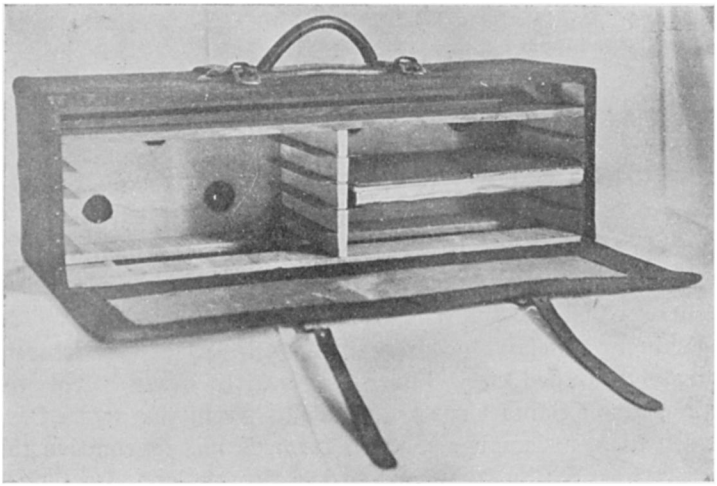

FIG. 2.

The door when closed was fastened by a brass ring which fitted over a screw in the front edge of the top of the case. The trays were supported on ledges made of strips of thick tin bent at right angles and screwed to the end walls of the chambers at suitable heights, as seen in Fig. 2, which shows one tray resting on its ledges and covered with its pasteboard mats. The corners of the tin ledges were rounded; to prevent the screw-heads from wearing the edges of the trays as the latter were inserted and withdrawn, the vertical part of the ledges and their screws were covered with strips of thick paper, glued to the walls between the ledges.

This case was designed to accommodate twelve nests, but since two of my trays were not of the standard size adopted for the rest, I provided for their accommodation by putting in a false

roof, cutting off the space for the two upper trays, and omitting the partition from this space. When packed with nests of the Fielde type the whole outfit weighed about twenty-six pounds; but when packed with my aluminum nests, only about half as much, the weight of the case alone being about six pounds.

A strong leather shawl-strap, with stout handle, was used in carrying the case.

PAPERS CITED

Fielde, Adele M., "Portable Ant-nests," *Biol. Bull.*, Vol. II, No. 2, 1900, pp. 81–85, 3 figs.

Fielde, Adele M., "Portable Ant-nests," *Biol. Bull.*, Vol. VII, No. 4, 1904, pp. 215–222, figs. 1–3.

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COMPARISON OF CÆNOLESTES WITH POLYPROTODONTA AND DIPROTODONTA

Cænolestes has been described by Mr. Oldfield Thomas (1895) who placed it in the family Epanorthidæ of the suborder Diprotodonta, which includes several fossil forms described by Ameghino. Sinclair, however, in the "Report of the Princeton Patagonian Expedition" (1901–6) gives the name Cænolestidæ to these small Santa Cruz Diprotodonts, from the genus Cænolestes, which, although a modern form, is more primitive than any of these fossils in regard to the diprotodont character of the teeth.

In view of the phyletic interest attaching to this form, as perhaps the starting point for the evolution of diprotodont tooth structure, it was considered advisable to make more completely detailed drawings of the skull than had before been done, in respect principally to sutures and foramina, and to compare skull and other characters with types of Polyprotodonta and Diprotodonta.

The skull from which the accompanying drawings were made is the specimen which Sinclair figured in his report, loaned to me through the courtesy of Dr. J. A. Allen, from the collection of the American Museum of Natural History. I am indebted also to Mr. W. K. Gregory, of the museum, for many helpful suggestions during the course of the work.

Among the general marsupial characters of the skull of Cænolestes may be mentioned the following: absence of pituitary